

ABSTRACT OF THE INVENTION

A process for producing a polyrotaxane in a high yield and at a satisfactory cost without using a large excess of a pseudopolyrotaxane and/or without using a large excess of an activated reagent. The process for polyrotaxane production comprises: an inclusion step in which a carboxylated polyethylene glycol which is a polyethylene glycol carboxylated at each end is mixed with cyclodextrin molecules to obtain a pseudopolyrotaxane which comprises cyclodextrin molecules which include the carboxylated polyethylene glycol in their cavities as if the cyclodextrin molecules are spitted with the carboxylated polyethylene glycol; and a capping step in which the pseudopolyrotaxane is reacted with capping groups having $-NH_2$ or $-OH$ to obtain a polyrotaxane terminated at each end by a $-CO-NH-$ (capping group) or $-CO-O-$ (capping group).